

# Mass-Rearing and Molecular Studies in Tortricidae Pest Insects

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jove.com/video/63737

## Materials

Name	Company	Catalog Number	Comments
1/2 ounce cup	FP CHUPA	CP070009	insect rearing; <a href="https://www.askul.co.jp/p/6010417/">https://www.askul.co.jp/p/6010417/</a>
1/2 ounce cup lid	FP CHUPA	CP070011	insect rearing; <a href="https://www.askul.co.jp/p/6010434/?int_id=recom_DtTogether">https://www.askul.co.jp/p/6010434/?int_id=recom_DtTogether</a>
99.7% acetic acid	FUJIFILM Wako Chemicals Co., Osaka, Japan	36289	fixation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01ALF036289.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01ALF036289.html</a>
Agilent 2100 Bioanalyzer	Agilent Technologies	not shown	Nucleic acids quantification; <a href="https://www.agilent.com/en/product/automated-electrophoresis/bioanalyzer-systems/bioanalyzer-instrument">https://www.agilent.com/en/product/automated-electrophoresis/bioanalyzer-systems/bioanalyzer-instrument</a>
Agilent RNA6000 nano kit	Agilent Technologies	5067-1511	Nucleic acids quantification; <a href="https://www.agilent.com/cs/library/usermanuals/Public/G2938-90034_RNA6000Nano_KG.pdf">https://www.agilent.com/cs/library/usermanuals/Public/G2938-90034_RNA6000Nano_KG.pdf</a>
benzalkonium chloride solution	Nihon Pharmaceutical Co., Ltd	No.4987123116046	Sterilization; <a href="https://www.nihon-pharm.co.jp/consumer/products/disinfection.html">https://www.nihon-pharm.co.jp/consumer/products/disinfection.html</a>
Cotton	AOUME	8-1611-02	insect rearing; <a href="https://item.rakuten.co.jp/athlete-med/10006937/?scid=af_pc_etc&amp;sc2id=af_113_0_1">https://item.rakuten.co.jp/athlete-med/10006937/?scid=af_pc_etc&amp;sc2id=af_113_0_1</a>
DAPI solution	Dojindo, Tokyo, Japan	340-07971	stainings; <a href="https://www.dojindo.co.jp/products/D523/">https://www.dojindo.co.jp/products/D523/</a>
Disodium Hydrogenphosphate	FUJIFILM Wako Chemicals Co.	4.98748E+12	Na <sub>2</sub> HPO <sub>4</sub> ; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0286.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0286.html</a>
dsDNA HS quantification kit	Invitrogen	Q33231	Nucleic acids quantification; <a href="https://www.thermofisher.com/order/catalog/product/Q33230?SID=srch-srp-Q33230">https://www.thermofisher.com/order/catalog/product/Q33230?SID=srch-srp-Q33230</a>
Econospin RNA II column	Epoch Life Science Inc.	EP-11201	RNA extraction; <a href="http://www.epochlifescience.com/Product/SpinColumn/minispin.aspx">http://www.epochlifescience.com/Product/SpinColumn/minispin.aspx</a>

Ethanol	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	fixation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0105-0045.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0105-0045.html</a>
Ethylenediamine-N,N,N',N'-tetraacetic Acid Tetrasodium Salt Tetrahydrate (4NA)	FUJIFILM Wako Chemicals Co.	4.98748E+12	Cell lysis buffer (EDTA); <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01T02N003.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01T02N003.html</a>
Glassine paper	HEIKO	2100010	insect rearing; <a href="https://www.monotaro.com/p/8927/0964/?utm_id=g_pla&amp;utm_medium=cpc&amp;utm_source=Adw">https://www.monotaro.com/p/8927/0964/?utm_id=g_pla&amp;utm_medium=cpc&amp;utm_source=Adw</a>
heat block WSC-2620 PowerBLOCK	ATTO, Tokyo, Japan	4002620	incubation; <a href="https://www.attoeng.site/">https://www.attoeng.site/</a>
heptane	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	fixation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0108-0015.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0108-0015.html</a>
INSECTA LF	Nosan Co., Ltd	not shown	Artificial diet; <a href="https://www.nosan.co.jp/business/fodder/ist.htm">https://www.nosan.co.jp/business/fodder/ist.htm</a>
ISOGENII	Nippon Gene	311-07361	RNA extraction; <a href="https://www.nippongene.com/siyaku/product/extraction/isogen2/isogen2.html">https://www.nippongene.com/siyaku/product/extraction/isogen2/isogen2.html</a>
isopropanol	FUJIFILM Wako Chemicals Co.	4.98748E+12	nucleic acids extraction; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0232-0004.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0232-0004.html</a>
Lactic acid	FUJIFILM Wako Chemicals Co.	4.98748E+12	Stainings; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0112-0005.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0112-0005.html</a>
methanol	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	fixation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0113-0182.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0113-0182.html</a>
MSV-3500 vortex	Biosan	BS-010210-TAK	Voltex mixer; <a href="https://biosan.lv/products/msv-3500-multi-speed-vortex/">https://biosan.lv/products/msv-3500-multi-speed-vortex/</a>
Nano Photometer NP 80	Implen	not shown	Nucleic acids quantification; <a href="https://www.implen.de/product-page/implen-nanophotometer-np80-microvolume-cuvette-spectrophotometer/tech-specs/">https://www.implen.de/product-page/implen-nanophotometer-np80-microvolume-cuvette-spectrophotometer/tech-specs/</a>
Natural pack wide	Inomata chemical	1859	insect rearing; <a href="https://www.monotaro.com/g/03035766/?t.q=%E3%83%8A%E3%83%81%E3%83%A5%E3%83%A9%E3%83%AB%E3%83%91%E3%83%83%E3%82%AF%E3%83%AF%E3%82%A4%E3%83%89">https://www.monotaro.com/g/03035766/?t.q=%E3%83%8A%E3%83%81%E3%83%A5%E3%83%A9%E3%83%AB%E3%83%91%E3%83%83%E3%82%AF%E3%83%AF%E3%82%A4%E3%83%89</a>
NEBNext Ultra II RNA Library Prep Kit for Illumina	New England BioLabs	E7770S	Library preparation; <a href="https://www.nebj.jp/products/detail/2039">https://www.nebj.jp/products/detail/2039</a>
orcein	FUJIFILM Wako Chemicals Co.	4.98748E+12	Stainings; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0115-0094.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0115-0094.html</a>
Paraformaldehyde	FUJIFILM Wako Chemicals Co.	160-16061	fixation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-1606.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-1606.html</a>
Polyoxyethylene(20) Sorbitan Monolaurate	FUJIFILM Wako Chemicals Co.	4.98748E+12	Tween-20; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-2121.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-2121.html</a>
Portable UV Black Light (4W, 365nm wavelength)	Southwalker Co., Ltd., Kanagawa, Japan	not shown	Insect collection; <a href="http://www.southwalker.com/shopping/?pid=1364614057-467328">http://www.southwalker.com/shopping/?pid=1364614057-467328</a>

Potassium Chloride	FUJIFILM Wako Chemicals Co.	4.98748E+12	KCl; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-0354.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-0354.html</a>
Potassium Dihydrogen Phosphate	FUJIFILM Wako Chemicals Co.	4.98748E+12	KH <sub>2</sub> PO <sub>4</sub> ; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-0424.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0116-0424.html</a>
ProLong Diamond Antifade Mountant	Invitrogen, MA, USA	P36965	antifade; <a href="https://www.thermofisher.com/order/catalog/product/P36965">https://www.thermofisher.com/order/catalog/product/P36965</a>
Proteinase K Solution	Merck	71049-4CN	DNA extraction; <a href="https://www.merckmillipore.com/JP/ja/product/Proteinase-K-Solution-600-mAU-ml,EMD_BIO-71049">https://www.merckmillipore.com/JP/ja/product/Proteinase-K-Solution-600-mAU-ml,EMD_BIO-71049</a>
protein precipitation solution	Qiagen	158912	DNA extraction; <a href="https://www.qiagen.com/us/products/discovery-and-translational-research/lab-essentials/buffers-reagents/puregene-accessories/?cmpid=PC_DA_NON_BIOCOMPARE_ProductListing_0121_RD_MarketPlace_ProductC">https://www.qiagen.com/us/products/discovery-and-translational-research/lab-essentials/buffers-reagents/puregene-accessories/?cmpid=PC_DA_NON_BIOCOMPARE_ProductListing_0121_RD_MarketPlace_ProductC</a>
Qubit V4	Invitrogen	Q33238	Nucleic acids quantification; <a href="https://www.thermofisher.com/order/catalog/product/Q33238">https://www.thermofisher.com/order/catalog/product/Q33238</a>
rifampicin	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	Sterilization; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0118-0100.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0118-0100.html</a>
RNA HS quantification kit	Invitrogen	Q32855	Nucleic acids quantification; <a href="https://www.thermofisher.com/order/catalog/product/Q32852">https://www.thermofisher.com/order/catalog/product/Q32852</a>
RNase solution	Nippon Gene	313-01461	RNA extraction; <a href="https://www.nippongene.com/siyaku/product/modifying-enzymes/mase-a/mase-s.html">https://www.nippongene.com/siyaku/product/modifying-enzymes/mase-a/mase-s.html</a>
Silk Mate 2S	Nosan Co., Ltd	not shown	Artificial diet; <a href="https://www.nosan.co.jp/business/fodder/ist.htm">https://www.nosan.co.jp/business/fodder/ist.htm</a>
Sodium Chloride	FUJIFILM Wako Chemicals Co.	4.98748E+12	NaCl; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0166.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0166.html</a>
Sodium Dodecyl Sulfate	FUJIFILM Wako Chemicals Co.	4.98748E+12	Cell lysis buffer (SDS); <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-1398.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-1398.html</a>
sodium hypochlorite aqueous solution	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	egg separation; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0220.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0119-0220.html</a>
Tetracycline Hydrochloride	FUJIFILM Wako Chemicals Co., Osaka, Japan	4.98748E+12	Sterilization; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0120-1656.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0120-1656.html</a>
Tris-HCl	FUJIFILM Wako Chemicals Co.	4.98748E+12	Cell lysis buffer; <a href="https://labchem-wako.fujifilm.com/jp/product/detail/W01W0120-1536.html">https://labchem-wako.fujifilm.com/jp/product/detail/W01W0120-1536.html</a>
ultra-pure distilled water	Invitrogen	10977023	RNA extraction; <a href="https://www.thermofisher.com/order/catalog/product/10977015">https://www.thermofisher.com/order/catalog/product/10977015</a>